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TABLE OF CONTENTS

SPECIAL NOTICE.....	2
Bulbar Poliomyelitis.....	3
Coronary Thrombosis.....	4
Thyroid Function in Nephrosis.....	6
Modified Globin.....	7
When the Heart Stops Beating.....	8
Clinical Studies on Three New Mercurial Compounds.....	10
Use of Thorium Dioxide Sol in Accessory Spleens.....	11
Management of Congenital Scoliosis.....	12
Surgical Treatment of Progressive Exophthalmos.....	13
Thermal Burns of the Eye and Adnexa.....	16
Inefficient Uterine Action.....	17
Diabetes and Pregnancy.....	20
Use of Menadione Bisulfite and Ascorbic Acid in Pregnancy.....	22
Hypnotic Effect of Dormison in Children.....	23
Antibiotics and Fungicides Used in Infected Pulpless Teeth.....	24
Cleaning Effectiveness of Dentifrices.....	25
Mental Examination in Military Induction.....	26
Annual Meeting Association of Military Surgeons.....	27
From the Note Book.....	28
The Molecular Structure of Terramycin.....	31
Preparation of Identification Tags.....	31
Clinical Records of Beneficiaries of VA (BuMed Notice 6150).....	32
Industrial Relations Institute (BuMed Notice 12275).....	32
PREVENTIVE MEDICINE SECTION.....	33

SPECIAL NOTICE

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Bulbar Poliomyelitis

This report is primarily an analysis of the incidence and prognosis of the various syndromes usually grouped together under the general term "bulbar poliomyelitis." The bulbar forms of acute poliomyelitis account for most of the deaths in the disease; therefore, an important approach to the reduction of the mortality rate is through better understanding of these forms. For this reason, reports on the Minnesota epidemic of 1946 divided the bulbar forms into various subdivisions and suggested that they consisted of not one but several distinct clinical and pathologic entities. Since rational therapy must depend on the type of bulbar involvement present in the individual patient, this taxonomic subdivision is justified.

Two factors tend to decrease the statistical significance of a single epidemic of poliomyelitis in a particular community. One of these is the variation in the pattern of epidemics from year to year, and the other is the difficulty in accumulating a numerically significant group of cases in any single local epidemic. To minimize these factors, an analysis of 1,863 cases, occurring over a 12-year period, is presented. These figures represent the total number of cases of poliomyelitis admitted to South View (Isolation) Hospital in Milwaukee, Wis. from 1940 to 1951.

The division of bulbar cases into the following subgroups is of clinical value in determining prognosis and appropriate therapy: bulbar-encephalitic, diffuse and focal; bulbar-central autonomic, respiratory and circulatory; bulbar-cranial-nerve nuclei, upper and lower; and bulbar-spinal. The largest single bulbar subdivision was the bulbar-spinal group, containing 163 patients.

By a modification of Baker's classification of bulbar poliomyelitis the heterogeneous term "bulbar" is qualified by subdivision into clinically distinct entities. The value of such a classification is immediately apparent because the mortality rates in the subgroups vary widely and the treatment differs, depending on which manifestation of bulbar involvement is dominant. The overlap of subgroups is at times considerable, making strict definition difficult in some cases. Thus, a patient with evidence of marked respiratory center damage and some signs of involvement of the nucleus of the tenth cranial nerve would be placed in the respiratory type of the bulbar-central autonomic group.

The clinical manifestations of bulbar poliomyelitis are associated with corresponding central-nervous-system changes that make an accurate clinico-pathologic correlation possible in a high percentage of cases. However, the correlation is frequently made difficult by poor neurologic examination of critically ill patients and inability to assess carefully the function of one part of the central nervous system in the face of such widespread damage. From a morphologic standpoint interstitial inflammation, although most severe, does not correlate as well as the neuron

changes do, but even here morphologic changes cannot always be directly translated into terms of functional ability. Clinico-pathologic correlation is at times difficult but nevertheless should be attempted because effective therapy in the clinical case depends upon it. The use of the respirator, tracheotomy, bronchoscopy, oxygen under pressure, antibiotics, sedation, and so forth can be more effectively carried out if the patient is carefully evaluated and classified according to one of the subgroups of bulbar poliomyelitis.

Review of 1,863 cases of poliomyelitis observed from 1940 through 1951 revealed that 415 (22.2%) were of the bulbar type. All the deaths, except 1, occurred in the bulbar cases.

The highest mortality occurred in the bulbar-autonomic-center group. Although only 15% of the bulbar cases were in this category, they accounted for 44.3% of the deaths in the entire series. The lower-cranial-nerve-nuclei group was second in mortality incidence. It represented 30% of the bulbar cases, with a mortality of 20%. Diffuse bulbar encephalitis was present in 33 patients, 21% of whom died.

A correlation of the findings of 66 post-mortem examinations made during the course of this study is presented. (New England J. Med., Aug. 21, 1952, M. J. Fox, J. F. Kuzma, and C. L. Junkerman)

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Coronary Thrombosis

The author's discussion of coronary thrombosis is based on a consecutive series of 318 patients confined to hospital practice. In general the hospital receives a selected group composed of the moderately severe or complicated cases. All grades of severity may be encountered, but many patients die immediately or within an hour or two of the onset and hence fail to be included in a hospital series. Some of the milder attacks occur in patients who never seek hospital care. Thus hospital experience, while a reasonably large sample, is not necessarily representative of the general community as a whole. Further, the character of the hospital clientele varies in different localities. In Edinburgh nearly 60% of patients suffering from acute coronary thrombosis reach the wards within 48 hours of the onset of the attack. As a result, experience tends to be weighted with severe and commonly fatal cases. Similarly, in those surviving the first 24 to 48 hours serious complications are common.

One group, composed of a consecutive series of 161 patients, received treatment along the usual conservative lines, consisting of rest in bed for 4 to 6 weeks, analgesics and mild sedatives when necessary, a low-calorie diet, and simple symptomatic measures for complications. These patients received no particular remedy. The last 84 of the 161 consecutive patients in this series formed a small simultaneous control for a series

of 70 patients treated in the same way but with the additional use of the anticoagulant dicoumarol. On this basis it was possible to substantiate the claims made for the beneficial effects of heparin and dicoumarol. The author's experience has also been enlarged by a further study of the use of "tromexan" in the treatment of 87 consecutive patients. A total of 157 consecutive patients have therefore been treated with anticoagulants, but only the dicoumarol group is supported by a simultaneous and strictly comparable control series. Thus the present studies are based on 161 conservatively treated patients and 157 receiving either dicoumarol or tromexan.

Active measures in the treatment of acute coronary thrombosis are now yielding better results than ever before, even in the most gravely ill patients. The employment of anticoagulants is an outstanding contribution to the treatment of this disease. By their efficient use the death rate over the first 6 weeks can be halved. The dangers of thrombo-embolic complications can be reduced to negligible proportions. Moreover, it appears that the prompt use of anticoagulants exerts a favorable influence on the outcome of the shock syndrome. Deaths from shock are less frequent when anticoagulants are used.

The conquest of the thrombo-embolic aspects of the disease leads to a consideration of the other major causes of death—shock and congestive heart failure—in the hope that therapeutic measures as effective for their prevention and treatment may be forthcoming.

There is reason to believe that the occurrence of the severer grades of shock exerts a profound influence on the subsequent course of the illness. Severe and persistent shock, if survived, predisposes to death from congestive heart failure.

Prompt reversal of the shock mechanism should protect the healthy myocardium, reduce the death rate from this cause, and lessen the likelihood of congestive heart failure. The place of pressor drugs, intravenous and intra-arterial transfusions, and rapid digitalization in the treatment of shock is discussed. The early adoption of routine measures to prevent the development of congestive heart failure is also considered.

Anticoagulants have revealed the therapeutic shortcomings so far as these complications are concerned, but further advances in treatment can be anticipated as understanding of the mechanism of cardiogenic shock improves. (Brit. M. J., Aug. 16, 1952, A. R. Gilchrist)

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

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Thyroid Function in Nephrosis

Because hypometabolism and hypercholesterolemia are common to both hypothyroidism and nephrosis, it was postulated that thyroid activity was subnormal in nephrotic patients. However, Epstein found that remarkably large doses of thyroid hormone could be given to nephrotic patients without inducing hypermetabolism. Such tolerance to thyroid medication is unusual among patients with true hypothyroidism. It has therefore been suggested that the hypometabolism and increased serum cholesterol in nephrosis are due not to decreased thyroid function but to other causes as yet unknown.

The recent demonstration that the concentration of protein-bound iodine in the serum is reduced in nephrosis has once more raised the question of whether thyroid function is impaired in this syndrome. The present study is an attempt to answer this question.

In 16 patients with active nephrosis the serum protein-bound iodine was low, and the serum cholesterol high. The basal metabolic rate was often subnormal even when calculated on the basis of edema-free weight. However, the uptake of radioactive iodine by the thyroid gland was normal or greater than normal, and there was a definite rise in the serum protein-bound iodine in response to thyrotropic hormone. In one patient this response was eliminated by treatment with mercaptoimidazole before and during the injection of thyrotropic hormone.

The results of this study support the supposition that thyroid function in nephrosis is essentially normal and that neither anterior pituitary failure nor inability of the thyroid gland to manufacture thyroid hormone in adequate amounts accounts for the low serum protein-bound iodine. Although protein-bound iodine was lost in the urine, it usually represented but a small portion of the estimated normal daily secretion of thyroid hormone. Furthermore, although the protein-bound iodine in the urine increased when the serum protein-bound iodine was raised by the intravenous administration of thyroxine, the urinary loss during the first 2 days amounted to only about 6% of the administered dose, and the rate of decrease of the serum protein-bound iodine after thyroxine was no greater than in a normal subject. It seems improbable that the urinary loss of hormone can by itself account for the subnormal concentration of protein-bound iodine in the serum.

Arguments are advanced in favor of the hypothesis that in nephrosis the decreased concentration of protein in the plasma accounts for the low serum protein-bound iodine and permits the transport and delivery of a normal supply of thyroid hormone to the tissues with a decreased concentration of hormone in the blood stream. In certain patients with nephrosis the thyroid gland may actually become somewhat hyperactive in order to compensate for the continuous loss of hormone in the urine.

The subnormal basal metabolic rate cannot be ascribed to hypothyroidism, but must be due to some other factor, perhaps the marked protein deficiency which occurs in nephrosis. (J. Clin. Investigation, Aug. 1952, L. Recant and D. S. Riggs)

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Modified Globin

Previous articles from this laboratory have outlined the preparation of modified globin, the method of determination in the blood and urine, and some of the clinical applications.

This article deals with some of the physiologic properties of modified globin. Particular emphasis is placed upon its effect on plasma volume and plasma viscosity, the retention of globin in the blood stream, and its excretion in the urine.

Ideally a plasma substitute, or extender, should, when injected in adequate amounts, completely correct existing deficits in blood volume, and the excess should fairly promptly diffuse out of the vascular spaces. The rapidity of such diffusion is subject to many variables, but excessive retention in circulation would cause hypervolemia and undesirable circulatory overload. Equally undesirable is a material which is lost in excessive amounts in the urine, such as gelatin, or which is retained in the tissues as a foreign material, such as gum acacia, pectin, and, in part at least, polyvinyl pyrrolidone. A plasma substitute should not act as an antigen and, ideally, should be metabolized. Modified human globin appears to fulfill well the requirements stated above.

Previous reports have dealt with the antigenic properties of globin, the utilization as a source of nitrogen, and the diuretic effect.

The experimental data given in this article deal especially with the variations of the plasma volume, the rate of disappearance of injected globin from the circulation, and the amount lost in the urine. The amount of water held in circulation by injected macrocolloidal solutions and the duration of hemodilution vary considerably according to the nature of the material injected and the state of the recipient.

On the basis of maximal retention, globin appears to be iso-oncotic in approximately 4% solution. When globin is injected in patients with a known diminished plasma volume due to an acute loss, such as hemorrhage or burns, and in quantities not exceeding the patient's deficit, the hemodilution is generally close to the expected. However, in subjects with a normal volume of plasma, the measured maximal increase in the volume following the transfusion is generally much less than expected. The loss is affected by many variables, such as the speed of injection, the state of extravascular fluids, the cardiac condition, and, of course, the nature as well as the volume of the fluid injected. These unpredictable variables

are reflected in the variations of hemodilution. In this experiment the amount of globin injected in the 8 patients was calculated to produce a 25% increase in the plasma volume; actually the increases measured between 11 and 27-1/2%. The same figure shows that the hemodilution in the hypoproteinemic patients with a diminished volume of circulating plasma may last more than 24 hours. In a normal patient the blood volume is generally back to normal within 24 hours.

The amount of globin solution injected has a great deal to do with the proportion retained, an effect which can be readily expected.

When the data of hemodilution obtained with normal human plasma are compared with those obtained with a 4% globin solution under similar conditions, it is apparent that hemodilution from plasma is similar but appears generally to last for a somewhat longer period of time.

In analyzing data on the rate of disappearance of globin from the circulating blood and the variations in the blood volume of normal patients, it appears that ordinarily no more than 60% of the injected globin is present in the plasma even when the sample is taken immediately after the transfusion. This is also true even when measurements of plasma volume indicate retention of the entire volume of the infusion. This is taken to indicate a rapid exchange between the globin in the circulating plasma and the plasma proteins of the extravascular spaces. It is only when small amounts of globin are injected rapidly that a major portion of the material can be identified in the plasma in higher concentration for a period of at least a few hours. (J. Lab. & Clin. Med., Aug. 1952, M. M. Strumia, J. J. McGraw, Jr., and A. B. Sample)

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When the Heart Stops Beating

For the average physician, experience with remediable cardiac arrest is a rare thing. And like other rare emergencies, it is likely to come when least expected. But early recognition can literally make the difference between life and death.

Opportunities to use definitive treatment for cardiac arrest are limited to hospital practice. Most cases are encountered during operations or just after an anesthetic has been started. The arresting agent may be nothing more than the topical application of an anesthetic solution in preparation for a bronchogram. When a patient's heart stops beating, the first thing for the physician to remember is that he has no more than 3 to 5 minutes to get it started again. If more time passes before beating is restored, it is a foregone conclusion that the brain will have sustained irreparable damage from anoxia. Afterward, although the patient may survive, his life will be more vegetable than human.

The diagnostic criteria for cardiac arrest are quite simple. If the patient is not already unconscious from the effects of anesthesia, he suddenly loses consciousness and stops breathing. Peripheral pulses completely disappear and there is no blood pressure. Unless an electrocardiograph is attached to the patient, there is no way to tell whether the heart has stopped beating entirely or is in a state of ventricular fibrillation. For the moment this does not matter; the first steps in treatment are the same.

Two things must be done immediately and simultaneously. One, artificial ventilation must be started. If an anesthesia machine is not already in use or instantly available, mouth-to-mouth breathing is used until a machine arrives. Then 100% oxygen is forced into the lungs. Two, the heart must be massaged. If an abdominal operation has been in progress, the surgeon can try to get to the heart by slipping his hand through an incision in the diaphragm, or he may attempt to compress the heart against the sternum without cutting the diaphragm. If these measures are ineffectual or if there is no pre-existing abdominal incision, the chest should be quickly opened. Birnbaum recommends an incision up to 10 inches, extending laterally from the sternum in the fourth or fifth interspace. The fourth and fifth costal cartilages are cut so that the surgeon can slip his hand into the chest and grasp the heart. Then he can compress the heart by any method that is effective in delivering blood to the arteries at a rate of 60 to 80 "beats" a minute, using both hands if necessary.

Other measures are less important because they are less urgent. If the heart is in asystole, the surgeon can inject 5 to 10 cc of 1:10,000 epinephrine solution into the cavity of the right auricle or ventricle. If the heart is in ventricular fibrillation, the injection should consist of 5 cc. of 1% procaine solution; later an electric defibrillator may be needed to shock the heart back to its normal beat. Intravenous or intra-arterial infusions can be given to augment blood volume.

The essence of treating cardiac arrest is speed in doing the right things first. To prevent delays, Beck devised a list of don'ts which Birnbaum has recently republished. 1. DON'T listen for a faint heart sound. 2. DON'T wait for an electrocardiogram. 3. DON'T inject epinephrine through the chest wall into the heart. 4. DON'T dilate the rectal sphincter. 5. DON'T give mechanical respiration by compression of the chest. 6. DON'T give a blood transfusion. 7. DON'T give an intra-arterial transfusion.

With only 3 minutes for definitive action when the unexpected occurs, our attention to these "don'ts" may give some patients another chance at life. (General Practitioner, Editorial, Sept. 1952)

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Clinical Diuretic Studies on Three New Mercurial Compounds

Organic mercurial compounds exhibit a wide range of diuretic potency. Despite the great margin of safety of most of the compounds in common use, new ones are being synthesized which promise to have greater diuretic potency with less toxicity. Evaluation in the laboratory has indicated that three new compounds, 3-chloromercuri-2-methoxypropylurea (1347Ex), 3-carboxymethylmercaptomercuri-2-methoxypropylurea (1353Ex), and 3-(α -carboxyethylmercaptomercuri)-2-methylpropylurea (1431Ex), have 3 to 4 times the diuretic potency of meralluride (Mercurhydrin). After intravenous administration, mercury excretion rates are equivalent to meralluride. For these reasons, clinical evaluation was indicated. The following study is a clinical appraisal of these drugs when administered intramuscularly to patients with cardiac failure.

These new mercurial diuretics have been evaluated on 152 patients. The drugs were given twice a week, intramuscularly, in varying doses to 109 patients in the outpatient clinic. The diuretic effects of the drugs were compared to the previous responses of the patients to Mercurhydrin.

In doses equivalent to 10 and 20 mg. Hg of the experimental diuretics, none offered much of an advantage over Mercurhydrin. This is apparently because a threshold amount of mercury must be presented to the renal tubules before any diuresis results, regardless of the mercurial compound. From clinical observations this amount appears to be between 10 and 20 mg. Hg.

When larger doses of the experimental diuretics (equivalent to 40 mg. Hg) were administered, they appeared to have a higher order of potency than Mercurhydrin when compared on the basis of mercurial content. When evaluated on a clinical basis, this ratio was greater than 2:1 and appeared to be about the same for all the drugs under investigation.

Electrolyte studies were done on 43 hospitalized patients. After all 3 of the diuretics there was a marked increase in urine and sodium excretion. The concentration of sodium per unit volume of urine was also increased. Potassium excretion was increased but was erratic.

Of the 3 experimental diuretics studied, 1347Ex exhibited the highest increase of statistical significance in sodium and water excretion. (Am. Heart J., Aug. 1952, J. H. Moyer, C. A. Handley, and R. A. Seibert)

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Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U. S. Navy Medical School, National Naval Medical Center, Bethesda 14, Maryland, giving full name, rank, corps, and old and new addresses.

The Use of Thorium Dioxide Sol (Thorotrast) in the
Roentgenologic Demonstration of Accessory Spleens

The removal of accessory spleens has occasionally resulted in clinical remission when manifestations of idiopathic thrombocytopenic purpura or hereditary spherocytosis have failed to be relieved or have recurred after splenectomy. It is hazardous, however, to subject all patients with clinical relapse after splenectomy to surgical exploration for accessory splenic tissue. Accessory spleens are found in only a minority of instances; they are difficult to locate even when present, and the condition of the patient is frequently so critical that the extensive exploration necessary is poorly tolerated. If it were possible to establish the presence and localization of accessory spleens prior to operation, the surgical risk would be justified. The present report emphasizes the value of thorium dioxide (Thorotrast) for the roentgenologic identification of accessory splenic tissue, and describes the remission induced by removal of an accessory spleen in a patient with idiopathic acquired hemolytic anemia in whom sustained improvement had not occurred following splenectomy.

Experience with the use of thorium dioxide for the radiographic visualization of the liver and spleen was first published in 1929 by Oka and independently by Radt. In this country Yater and Otell and Ericksen and Rigler reported their experience with thorium dioxide in 1933. Clinical application of this method for demonstrating accessory spleens has been utilized in this laboratory since 1945, and other workers have emphasized its value in the management of patients with hematologic disorders. In 1951, Rosenthal, et al. reported 7 patients with idiopathic thrombocytopenic purpura who had failed to respond to splenectomy and to whom thorium dioxide had been given in an attempt to demonstrate an accessory spleen. In 2 of these cases an accessory spleen was demonstrated and its presence was confirmed by surgical exploration. Following removal of the accessory spleen, both patients experienced remissions of their disease, but in 1 patient the remission was only of 10 days' duration.

That accessory spleens are infrequently related to hematologic and clinical relapses after splenectomy is emphasized by the fact that they could be demonstrated by the thorium dioxide technic in only 2 of 9 such patients in this series: a man with hereditary spherocytosis and a woman with idiopathic acquired hemolytic anemia. In this latter patient, splenectomy resulted in a remission of only 9 days' duration but a sustained remission followed the removal of an accessory spleen. No accessory splenic tissue could be identified in the remaining instances, all patients with idiopathic thrombocytopenic purpura. The absence of accessory spleens was confirmed at operation in 1 instance and at necropsy in 2 others. This experience emphasizes the value of the technic as a method of selecting those patients for whom exploration is advisable.

Experience with the use of thorium dioxide sol (Thorotrast) in the roentgen demonstration of accessory spleens is described. The importance of the application of this technic to the clinical management of patients with hematologic relapse following splenectomy is emphasized and illustrative case reports are presented.

Nine patients were given thorium dioxide in an attempt to demonstrate an accessory spleen. A remission was induced in 1 patient with acquired hemolytic anemia, who had failed to respond to splenectomy, by removal of an accessory spleen demonstrated with thorium dioxide. A second patient with hereditary spherocytosis, who had a relapse 7 years after splenectomy, was shown to have an accessory spleen. Seven patients with idiopathic thrombocytopenic purpura who had relapses following splenectomy were given thorium dioxide and in no case was an accessory spleen found. (Blood, Sept. 1952, V. Loeb, Jr., W. B. Seaman, and C. V. Moore)

* * * * *

Management of Congenital Scoliosis

Congenital scoliosis occurs in 2 distinct types. In the first type the scoliosis is the result of muscular and ligamentous contractures and there is no early deformation of the axial skeleton. This type of scoliosis is thought to be the result of prolonged lateral bending of the fetal spine in utero. It is usually corrected without great difficulty by daily stretching and by the use of a corrective plaster shell in infancy. This is a rare type of congenital scoliosis. Only 5 patients with this type of congenital scoliosis were seen during the last 25 years. In each of these patients the scoliosis was corrected or greatly improved during the period of observation. None of these patients presented a serious therapeutic problem. The 5 cases are not included in the subsequent discussion.

In the second type of congenital scoliosis, the type commonly seen, the scoliosis is caused by congenital deformation of the spine and ribs. One hundred and sixty-five patients, 99 girls and 66 boys, with this type of scoliosis have been followed for 3 years or longer. Eighty-five of these children were followed until they were fully grown, thus affording an opportunity to study the pattern of growth in the various types of deformity. In this article the various congenital deformities found in the spine and elsewhere in the body, the neurologic complications, and the end result observed in those patients followed to maturity are discussed. From these data a general plan of management has evolved.

No rigid plan for the management of congenital scoliosis can be laid down. There are no previous studies for comparison. No large number has been reported previously, nor have many patients with congenital scoliosis been followed to maturity. There are usually a number of other

factors which must be taken into account besides the lateral curvature. Chief among these are deformities elsewhere in the body, weakness and paralysis in the supporting muscles, shortness of one leg, and, occasionally, trophic disturbances. The authors' experience confirms previous reports that most of the disturbances, as well as the congenital scoliosis, follow a benign course. The disabilities change slowly. While long observation has demonstrated that numerical variations, cervical deformities, failures in differentiation, and gross unclassifiable deformities rarely show much if any progression of the curve, patients with this deformity need to be kept under observation during the growing period. Most treatment will be required by those with morphologic variations and combinations of morphologic and numerical variations. About one-half of the latter groups will show increase in the curvature and the lateral displacement of the thorax. A small number of these should have as much correction of their curvature as possible, followed by fusion of the spine. While there will be a slight increase in deformity in a few of these children due to growth of the deformed vertebrae, this increase is never great. In the past, attempts have been made to remove the deformed vertebra when one or a few deformed segments were present in one area. This has not resulted in improvement in the majority of instances and is no longer attempted. More recently stapling across deformed vertebrae has been reported, with some improvement in the growth of the vertebral deformity. Longer observation is necessary before the effectiveness of this procedure can be evaluated.

Most patients with congenital scoliosis will show little change in their curvature and require only periodic observation to determine that the curvature has not increased. In most of those who show increase in curvature and lateral displacement of the thorax, serious deformity can be lessened by physical therapy and proper support. A small number with serious deformity can be improved by forceful partial correction of their curvature, followed by spinal fusion. (A. M. A. Arch. Surg., Aug. 1952, J. G. Kuhns and R. S. Hormell)

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Surgical Treatment of Progressive Exophthalmos

Progressive exophthalmos associated with Graves' disease and often encountered after subtotal thyroidectomy may become a distressing, painful, and disabling condition and present a difficult therapeutic problem. Such cases occur infrequently. Means states that in about 4.5% of cases of Graves' disease there is dissociation between the ophthalmopathy and the degree of thyrotoxicosis, and others estimate that progressive exophthalmos may develop in 1 case per 1,000 of primary hyperthyroidism.

Suitable treatment presents several problems.' In some cases the progression tends to become self-limited, or a remission may occur. In others, the condition is controlled by conservative treatment. However, the cases discussed are those in which the exophthalmos increases in spite of conservative therapy and because orbital decompression may be indicated in such cases. If orbital decompression is to be effective it must be carried out before the intra-orbital contents have been damaged beyond repair and while the muscles and fat are resilient enough to take advantage of the increased space.

The earliest operations for the relief of progressive exophthalmos were local in nature and designed to contain the globes, protect the cornea, and afford symptomatic relief. Later operations were performed to remove the edematous intra-orbital contents. Also, operations on the cervical sympathetic ganglia were carried out with the hope of causing enophthalmos, but those did not satisfactorily arrest the progress of the disease.

Dollinger, in 1911, was one of the first to operate for the express purpose of relieving intra-orbital pressure by removal of the containing walls of the orbit, using the Krönlein procedure. Since that time every space or potential space about the orbits has been used in orbital decompression for the relief of progressive exophthalmos.

The procedure for transcranial decompression of the orbit outlined and carried out by Naffziger has proved of great value; it affords maximal bony decompression, through a clean operative field under direct vision, and results in a minimal postoperative external bony defect.

Experience at the Mayo Clinic with transcranial orbital decompression for progressive exophthalmos associated with proved or suspected Graves' disease began in 1934 and is based on 28 cases. Twenty-one patients required bilateral unroofing of the orbits and 2 others, suffering from asymmetric exophthalmos, required a unilateral operation. Five other patients, not included in this discussion, required a unilateral operation; their exophthalmos was not associated with any proved derangement of thyroid function.

A review of the cases gives the impression that an ocular protrusion of about 25 mm. (Hertel measurement) and increasing chemosis with the attendant discomfort, visual changes, and progressive nature of the disease, should be cause for concern. Hertel exophthalmometry, orbitometry, and serial photographs of lateral and frontal views have proved invaluable in clinical evaluation and therapy, both medical and surgical.

Evaluation of the results of conservative therapy was attempted before irreparable changes occurred in the intra-orbital muscles and fat. Transcranial decompression may be indicated when the Hertel reading is in the range 25 and 35 mm., and when vision is threatened because of exposure keratitis, progressively severe chemosis, papilledema, or visual field

defects. At present the authors use a modification of the Naffziger operation.

Among the 28 patients who underwent decompression, the orbital pathologic changes were similar. Marked increase in size and weight of the intra-orbital contents, hypertrophy of the ocular muscles, edema, lymphocytic infiltration, and fibrodegenerative changes were usually present. At operation the frequent finding of noticeable thinning, almost erosion, of the orbital plate was impressive.

The one operative death in this series followed bilateral orbital decompression performed on a 76-year-old man.

The average age of the 23 patients with proved Graves' disease was 48 years; 15 of the patients were female and 8 male. For 8 of these patients it has been thought advisable to do the orbital decompression during the toxic phase of their goiter, although they were under Lugol therapy at the time.

The interval encountered before progression of exophthalmos occurred in those patients who had subtotal thyroidectomy was usually 6 weeks to 1 year. One patient did not have any interval. Patients whose decompression was not carried out during the toxic phase came for treatment with basal metabolic rates varying from normal to -31%.

The greatest ocular protrusions encountered in this series were 36 and 38 mm. and the least protrusion was 22 mm. All patients had some limitation of ocular rotation preoperatively, and 17 had palsy of extra-ocular muscles or paresis of conjugate gaze. Four patients had corneal ulcers prior to operation, and 9 underwent irradiation of the orbit preoperatively.

One globe was lost postoperatively. In 1 patient operation did not affect the course of the progressive exophthalmos. In all others the progression of the protrusion was arrested. Usually the ocular recession amounted to 4 or 5 mm. during the first postoperative year. Edema of the lids frequently persisted over long periods, and diplopia, once experienced, proved troublesome and persistent. Pulsation of the globes has not been a serious complaint postoperatively.

More and more the authors believe that in this as in other diseases, surgical treatment, though not ideal, offers more promise than do other methods of therapy. It is wise for the patient to understand that the operation is not a cure but only a means of retarding the progress of the disease.

Although it still seems inadvisable to recommend transcranial orbital decompression for cosmetic reasons alone, it is likely that earlier intervention in some cases of suspected progression may improve the end results both cosmetically and functionally. It is unreasonable to expect complete or nearly complete relief of signs and symptoms when late vascular and fibrodegenerative changes in the orbits have become irreversible.

The modifications in the Naffziger operation currently employed at the Mayo Clinic—thiopental sodium (pentothal sodium), withdrawal of cerebrospinal fluid, modified Souttar craniotomy (both orbits exposed by removal of a single block of bone) with concealed incision, and the more nearly complete removal of orbital bone—all seem to have helped in the improved control of progressive, or so-called malignant, exophthalmos. (Ann. Surg., Sept. 1952, W. McK. Craig and H. W. Dodge, Jr.)

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Thermal Burns of the Eye and Adnexa

Thermal burns of the eyes or upper face are acquired in many ways. The commonest cause in children is probably boiling water or coffee. Accidental ignition of clothing and fires in homes and institutions have resulted in facial burns to large numbers of people. In industrial plants, hot solutions of many kinds and molten metals take their toll. Particularly severe burns occur in epileptics falling into open fireplaces or against hot stoves or radiators. Deep burns of the exposed areas such as the face also result from explosion of gasoline in automobile and airplane accidents.

In modern warfare the ignition of oil and gasoline aboard ships, the use of highly volatile gasoline for all purposes, incendiary bombs and flame throwers tend to increase the number of thermal burns. Davis found that burns constituted 60% of all Pearl Harbor casualties. Even in a typical peace-time year, the incidence of burns among eye injuries of Navy personnel was about 20% according to Trexler.

Burns of the face alone seldom endanger life, but they are potentially more serious than considerably larger burns elsewhere. Besides endangering sight, even small facial burns may cause more visible distortion than tremendous burns on other parts of the body.

An almost universal result of these burns, when they are of deep second-degree type or worse, is ectropion of the eyelids.

Early treatment of the skin burn should consist of gentle cleaning without debridement followed by vaseline gauze and gentle pressure dressing. If the facial burn is extensive, the granulating area is covered with a split-thickness skin graft as soon as possible, usually in about 3 weeks. If a third-degree burn is small it may be excised immediately and replaced with a full-thickness graft. This may save many weeks of treatment.

Only about 12% of patients with burns on the skin of the eyelids actually have burns of the eyeball. When lid conjunctiva is damaged as well as opposing bulbar conjunctiva or cornea, steps must be taken to prevent symblepharon. An immediate mucous-membrane graft is the most effective treatment. Ophthalmic cortisone solution (topical) is of great

value in burns of the cornea. After extensive skin burns, systemic cortisone during the first few days reduces the severity of the inflammatory reaction and lessens the tendency for burn shock. ACTH is not indicated in early burn cases. The value of both cortisone and ACTH is dubious in late treatment of skin burns and in healing of grafts.

Beta irradiation should be used early on vascularizing leukomas if there is any possibility that ultimately corneal transplantation may be possible.

When full-thickness free grafts are used near the lids, small ones may be taken from the upper-lid skin, moderate-sized ones from just above the clavicle, and large ones from the side of the lower abdomen. (Am. J. Ophth., Aug. 1952, B. D. Leahey)

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Inefficient Uterine Action

The safe and smooth delivery of a baby depends above all else on the efficient action of the uterine musculature. The expulsive effort of the upper segment must be intermittent and regular, and must be accompanied by relaxation and dilatation of the lower segment and cervix. The more important of these 2 myometrial functions is the opening up of the lower segment and cervix to become the upper part of the birth canal. The less the resistance offered by these tissues the quicker and less distressing the labor. Differences in this resistance explain in large part why the multigravid patient has an easier delivery than the primigravid patient.

The term "relaxation of the lower segment" is to some extent misleading because this part of the uterus is not entirely passive. It can contract and retract quite strongly as is evident during lower segment cesarean section. Moreover, if it were not so, every patient with placenta previa would die from postpartum hemorrhage. The inactivity of the lower uterus is relative to the strong activity of the upper, so in progressive labor there is a gradient of activity from fundus to cervix.

The contractions of the uterus in labor are also painful but the mechanism whereby the pain is produced remains uncertain. Some maintain that the pain is the result of progressive stretching of the sensitive lower pole of the uterus or of its adjacent ligaments and nerve ganglia. Others take the view that pain arises because the muscle is called upon to contract while it is in a state of ischemia, the ischemia being brought about by high muscle tone or retraction. Neither explanation accounts satisfactorily for all pain of uterine origin. For example, "after pains" can hardly be explained on the basis of stretching of the cervix or its ligaments. Indeed clinical observations suggest that both mechanisms can operate, but that each gives rise to a different sensation. Tension in the cervix and lower segment induces pain, which is referred almost entirely

to the lower part of the back. Hypogastric pain, on the other hand, seems to be closely related to activity of the upper segment. In normal labor, cervical resistance is minimal, and pain in the back is barely noticeable except sometimes at the inception of a "pain" and particularly during the final stages of dilatation. When, however, the lower segment and cervix offer unnatural resistance, or when they are in high tone, backache becomes a prominent feature of labor. In general it appears that the less a woman experiences backache in labor, the more efficient is her uterus.

Brief consideration of the causes of inefficient uterine action serves to summarize what has gone before. The comments are based on a study of severe uterine disorders in which the diagnosis was not in doubt, but they are applicable to the more common minor dysfunctions. It can be stated with a fair degree of confidence that: (1) The condition is rarely, if ever, due to overstretching of the uterine wall as in twins and hydramnios. Nor is it a characteristic of the worn-out and fibrous uterus of the grande multipara. In fact this type of uterus is so efficient that it ruptures itself spontaneously on the slightest provocation. Diseases of the uterine wall such as fibroids are not a significant cause. Faulty development of the uterus, such as bicornuate uterus, can operate, but this type of deformity is present in only a small proportion of cases. (2) The condition is essentially a disease of primigravidas, at least 95% of severe cases occurring in first labors. Moreover, it is not the prerogative of elderly primigravidas, the age incidence being only slightly higher than the age of first childbearing in any community. It is perhaps rather more common in the heavily built, thickset, and relatively infertile woman, and can form part of the dystrophica dystocia syndrome. Obesity alone seems to favor it. It also sometimes appears to have a familial incidence, but it is doubtful whether this implies an inherent defect or whether it is the result of fear or other emotion induced by the experience of a close relative. (3) The condition is often caused by or associated with a minor degree of disproportion and, in particular, with a posterior position of the occiput or a large fetus. The association between a high presenting part and faulty uterine action, in the absence of disproportion, raises the question as to whether the failure of engagement is the cause or the result of the particular behavior of the uterus. In other words the head may remain high because hypertonicity of the lower segment is already present before labor. False labor, too, can be regarded as representing inefficient uterine action. (4) Primigravidas, it is generally said, are prone to inco-ordinate uterine action and inertia because they are fearful of an unknown experience. Fear, acting by the liberation of adrenaline or by the sympathetic nervous system, leads to tension in the lower segment and upper cervix. Elimination of fear by antenatal education in the physiology of childbirth and in mental and physical relaxation ensures, it is said, smooth, rapid, and less painful labor. There is a large body of opinion and some evidence in support of this view, and there can be little

question that emotional upsets can cause minor disturbances and variations in the behavior of the uterus in labor. When the more severe and serious inertia or inco-ordinate activity of the uterus is met, does this theory of causation remain acceptable?

The woman who suffers from these conditions is not always the fearful one—on the contrary, she is often placid, sensible, and well-informed. The obvious neurotic who might be expected to have trouble usually has none. There is no significant association between inco-ordinate uterine action and spasmodic dysmenorrhea. It has not yet been shown that drugs which depress the sympathetic nervous system can favorably influence the progress of labor when the uterus is inefficient, although there are some claims for continuous caudal anesthesia. Moreover, no one has yet shown that the emotional and physical preparation of the patient antenatally reduces the incidence of inco-ordinate uterine action, or even the duration of normal labor and the need for forceps delivery.

— Leaving aside these arguments, however, there is one fundamental feature of inefficient uterine action which throws the greatest doubt on the nervous theory of origin. No matter how afraid she may be when she faces her first confinement, the woman who experiences inco-ordinate labor finds it far worse than her worst fears led her to expect. So much is this so that at least one third of these patients refuse to face pregnancy again. Those that do go into labor a second time are full of apprehension which nothing can allay. Yet despite this the uterus nearly always behaves better, even the pain sensation is different, a point on which most patients are quick to comment. This evidence is so striking that it cannot be set aside.

Finally, a woman with a uterus didelphys may experience normal first labor when one horn is impregnated, only to suffer severe inco-ordinate action if the second pregnancy happens in the other horn, her emotional outlook remaining the same, or being even better after her first satisfactory experience.

The change in uterine function from one pregnancy to another seems best explained by supposing that passive rigidity, rather than temporary muscle spasm, of the tissues of the lower segment and cervix may play a greater part in inco-ordinate uterine action than has previously been recognized. If this is so then the stretching of the first labor permanently overcomes this resistance, thus allowing more normal behavior in the future. (Surg. Gynec. & Obst., Sept. 1952, T. N. A. Jeffcoate, K. Baker, and R. H. Martin, Liverpool, England)

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Diabetes and Pregnancy

The purpose of this article is to present the results of the authors' experience with 140 pregnancies in diabetes from 1932 to Sept. 1, 1950, with special reference to factors influencing fetal mortality. The first 18 cases of this series have been previously reported. Except for a small group of 14 patients treated with diethylstilbestrol by mouth, the patients have had no specific treatment other than careful medical management of their diabetes, and delivery according to the obstetric indications. Insulin therapy has reduced the fetal mortality from about 50% to about 20%, but it still remains approximately 5 times that in the nondiabetic patient. Diabetes, therefore, unlike some other chronic diseases such as tuberculosis in pregnancy, seems to have a deleterious effect upon the fetus. It is interesting that this effect occurs even before the onset of diabetes; Miller, Hurwitz and Kuder found that the fetal and neonatal mortality was as high during the 5-year period immediately preceding the onset of diabetes as after the diagnosis had been established. It is apparent that the main problem in diabetic pregnancies is the high fetal mortality, since the maternal mortality is the same as that in nondiabetic pregnancies. In this series the maternal mortality was zero.

When the diagnosis of diabetes is made, or when a new diabetic patient comes to the Diabetic Clinic, the patient is placed on a diet of 180 gm. of carbohydrate or more, 75 gm. of protein or more, and fat according to her nutritional needs. If glycosuria is not controllable by diet alone, protamine zinc insulin and regular insulin separately administered are prescribed in amounts sufficient to keep the urine as sugar free as possible without provoking hypoglycemia. More recently, suitable patients have been adequately controlled with NPH insulin. The patient is seen at weekly intervals during pregnancy, since there is usually an increased need for insulin, especially in the second and third trimesters.

In the latter part of this series, the patients were hospitalized for a few days at approximately the thirty-fifth week of pregnancy, when a decision was made concerning the type of delivery. Many patients were readmitted between the thirty-seventh and thirty-ninth weeks for observation and induction of labor, if indicated. If there were clearcut obstetric indications, such as toxemia with an unfavorable cervix, placenta praevia, and cephalopelvic disproportion, a cesarean section was done. That a cesarean section was by no means routine is shown by the occurrence of only 20 such procedures in the entire group of 140 pregnancies.

Diabetic management during labor is surprisingly easy. Most patients in labor have taken their morning protamine zinc insulin. If labor is prolonged, there may be a tendency to hypoglycemia, so that small amounts of fruit juices should be administered during early labor, and glucose given intravenously during the latter part of labor. If acetonuria develops as a result of prolonged labor and lack of food intake additional glucose

and insulin may be necessary. There are usually no difficulties with the labor of the diabetic mother. The usual analgesics and a low spinal anesthesia are used before delivery. After the baby is born, blood sugar determinations are made on the umbilical-cord blood, the newborn infant's capillary blood, and the mother's venous blood. The mother's insulin dosage is watched carefully because there is often a sharp drop in the immediate postpartum period to a level comparable to the amount taken prior to pregnancy. The newborn infant's blood sugar level may be extremely variable, so that the fact that an infant has a low blood sugar level does not necessarily mean an insulin reaction. No attempt is made to administer glucose by mouth during the first 48 hours of life, since the baby is in need of dehydration. Only 1 newborn infant had what appeared to be an insulin reaction, and this was promptly relieved by glucose intravenously.

The hormonal treatment of diabetes in pregnancy is based upon the original work of Smith et al., who showed that hormonal imbalance (abnormal rise in serum chorionic gonadotropins and fall in urinary estrogens and pregnandiol excretion) was in progress for some weeks prior to fetal death or maternal toxemia. They further demonstrated that prophylactically administered oral diethylstilbestrol counteracted this imbalance. For the past 5 years the authors treated all patients arriving before the twentieth week of pregnancy with diethylstilbestrol by mouth. Starting with 5 mg. of stilbestrol at the seventh and eighth weeks of pregnancy, the dosage was progressively increased every 2 weeks so that by the thirty-fourth week the daily dosage was 150 mg. The last medication is taken at the end of the thirty-fifth week. Patients arriving at the clinic later than the twentieth week of pregnancy have constituted a control group.

There were 14 patients in the treated group for a total of 16 pregnancies, and 23 patients in the control group for a total of 26 pregnancies. Both groups were comparable so far as severity and duration of diabetes were concerned. In the treated group there were 3 fetal deaths (19%) and 2 cases of maternal toxemia (18%), both mild pre-eclampsia; in the control group there were 9 fetal deaths (35%) and 7 cases of maternal toxemia (27%), 1 of which was eclampsia. In the entire series, exclusive of the treated group and inclusive of the control group, there were 29 fetal deaths in 124 pregnancies, an incidence of 23%, and 38 cases of maternal toxemia, an incidence of 31%. The causes of fetal death in the treated group were hydrocephalus, congenital alveolar dysplasia, and prolapsed cord in twin breech presentation; there was no case of unexplained intrauterine death. On the other hand, in the control group 7 of 9 deaths could not be explained. The 2 remaining deaths were due to tetralogy of Fallot and erythroblastosis with kernicterus. (New England J. Med., Aug. 28, 1952, D. Hurwitz and N. Higano)

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Use of Menadione Bisulfite and Ascorbic Acid in
Treatment of Nausea and Vomiting of Pregnancy

The object of this study was to find an effective, simple, and inexpensive treatment for the nausea and vomiting of pregnancy. Current theories include the possible presence of a fetal or placental toxin, or some disturbance of hormonal equilibrium. Bertling attributed nausea and vomiting of pregnancy to inadequate utilization of chorionic gonadotropin. According to Vanden Bosch it may be caused by a temporary depression of adrenal function.

These postulates are merely suggestive. The only observation with which all physicians will agree is that the disorder is more common in high-strung women with neurotic backgrounds than in those women who are reserved and less sensitive.

While physical factors are undoubtedly concerned, this observation suggests that there is also a large psychogenic component in the vomiting of pregnancy. There are many women who do not want to become pregnant. However, it is impossible to say to what extent the vomiting of pregnancy is due to a physical factor or to what extent it is due to a psychologic cause. As in so many other psychosomatic problems, both factors probably operate in most cases, their relative proportion depending upon the psychosomatic characteristics of the individual.

The author postulates that the occurrence of nausea and/or vomiting of pregnancy depends upon the transfer of a vomiting factor from the placenta or fetal circulation to the expectant mother, and that the cause of this transfer in many women is some abnormality, functional or organic, in the placenta or its uterine base. It is further reasoned that a most important cause of "vomiting factor" transfer is due to an increased capillary permeability in the placental base.

In the treatment of nausea and vomiting of pregnancy, the importance of hydration and dehydration is well established. Bertling used diethylstilbestrol, because, by causing an increase of progesterone secretion, the utilization of chorionic gonadotropin is facilitated. Titus recommended mental rest, sedation, and a high carbohydrate-high vitamin B and C diet. Kroger and DeLee used hypnosis successfully in 17 of 19 cases. Anti-histaminics were suggested by Dougray.

In the investigation herewith reported, ascorbic acid and menadione bisulfite (synthetic vitamin K) were used to decrease placental capillary permeability, thereby preventing transfer of the "vomiting factor" to the expectant mother. This treatment was used in a series of 70 consecutive cases of nausea and/or vomiting of pregnancy, varying from mild to severe. Thirty-three of the women were primigravidas and 37 multigravidas. Seven were Rh negative, and 63 Rh positive. All were given daily 25 mg. of ascorbic acid and 5 mg. of menadione bisulfite orally without any attempt at psychotherapy or other supportive measures. The prothrombin levels in the blood and the bleeding time of each patient were determined both prior to medication and afterward.

Therapy, averaging 30 days, was continued until the withdrawal of medication produced no recurrence of symptoms.

Sixty-four patients reported complete remission of symptoms within 72 hours. Three were relieved of their vomiting, but continued to have nausea after prolonged and increased amounts of medication. Three received no apparent relief of their nausea and/or vomiting. In an advanced case of hyperemesis gravidarum in the second trimester, and a case of pseudocyesis, this medication appeared to be dramatically beneficial when other means of treatment had failed. Three patients required continual medication until delivery.

Preliminary studies with ascorbic acid alone revealed little improvement in nausea and/or vomiting, while studies with menadione bisulfite alone showed improvement in about 50% of the cases. During this study it became apparent that oral iron therapy used in the treatment of anemia of pregnancy caused little or no gastrointestinal disturbance, and iron absorption was enhanced by the vitamin C and K therapy. (Am. J. Obst. & Gynec., Aug. 1952, R. L. Merkel)

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Hypnotic Effect of Dormison in Children

In view of the importance of rest in the treatment of tuberculosis, Dormison was assayed on a group of children with tuberculosis. Dormison a new hypnotic and sedative drug, appears to be devoid of toxicity in children in doses of 50 to 500 mg. used over a period of several months.

Dormison is an unsaturated aliphatic carbinol called 3-methyl-pentynol-3.

It was determined that there were approximately 30 children in whom, because of varying degrees of restlessness, Dormison might be beneficial.

The optimal hypnotic dose appears to be between 150 and 200 mg. Higher doses such as 500 mg., appear to induce increased activity rather than sleep. Comparative studies with a placebo of identical taste and appearance proved that Dormison has true hypnotic activity. Although sleep was not achieved in all cases, the majority reacted favorably in this respect under the conditions discussed. Induction of sleep at bedtime usually occurs between 5 and 30 minutes after the drug is taken. Dormison is a more effective hypnotic at bedtime than during the day. Sedative effects, however, could be demonstrated during the day. A sleep pattern was established in certain patients after the use of this drug for a period of 1 month. There was a signal absence of mental sluggishness, torpor, or neurologic disturbances after its use.

Dormison-treated patients showed an average weight gain of 2.1 pounds over a 4-month period, as compared with a 1.0 pound gain for the control group. This effect in the treated patients is attributed to relief from tension and wakefulness, as well as the sounder sleep which is induced by Dormison.

Dormison appears to be a valuable mild hypnotic and sedative and is a useful addition to the list of hypnotics, particularly in children, because of its absence of aftereffects. (J. Pediat., Aug. 1952, H. J. Malone, G. R. Klimkiewicz, and H. J. Gribetz)

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Combination of Antibiotics and Fungicides Used in Treatment of the Infected Pulpless Tooth

The recent use of penicillin in the treatment of infected pulpless teeth has stimulated interest in the use of other antibiotics. The antibacterial spectrum of penicillin is insufficient to destroy all the organisms encountered in the infected root canal. While penicillin has a spectrum against a wide range of gram-positive organisms, it is not effective against most gram-negative organisms and certain strains of gram-positive organisms.

Antibiotics are selective in their action having a destructive effect only against certain bacteria. Since the infection of the pulpless tooth is composed of a great number of different organisms, it becomes evident that mixtures of antibiotics have to be used to destroy all the bacteria.

This article is a clinical report on the comparative effectiveness of various antibiotics and combinations of antibiotics and fungicides that were used to sterilize infections in the root canal.

The following antibiotics and combinations of antibiotics and fungicides were used: fresh aqueous solutions of amorphous penicillin; potassium penicillin in peanut oil; streptomycin; penicillin and streptomycin in peanut oil; penicillin and streptomycin in propylene glycol; streptomycin and chloramphenicol; streptomycin, chloramphenicol, and sodium undecylate; penicillin, streptomycin, chloramphenicol, and sodium caprylate.

The effectiveness of various antibiotics and combination of antibiotics and fungicides in root canal infections has been determined in 8 different studies. The least effective treatment was the use of penicillin alone. This was effective in only 68 to 70% of the cases. The most effective treatment was the use of a combination of procaine penicillin G, streptomycin, chloramphenicol, and sodium caprylate. This combination yielded a negative culture in 97% of the cases after an average of 1.1 treatments. The antibiotic and fungicide combination is stable for 1 year.

A method of treatment was suggested for those patients exhibiting penicillin reactions. (J. Am. Dent. A., Sept. 1952, I. B. Bender and S. Seltzer.)

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Cleaning Effectiveness of Dentifrices

Most persons who are conscious of their teeth would like to have them free from dingy films or deposits. It is not only believed that such tooth surfaces look better, but that they give out less odor. It is also known that most gingivitis is caused by local irritation and that accumulations on the teeth brought about by faulty oral hygiene constitute the greatest source of local irritation. The part that the dentifrice actually plays as an adjunct to the toothbrush in this matter of appearance and the maintenance of oral hygiene has only been partially determined.

Phillips studied the abrasiveness of dentifrices and the resulting effect on tooth luster. This study showed that smooth, lustrous tooth surfaces were produced by a sodium metaphosphate type of dentifrice. Phillips also showed that this smoothness of surface might be brought about with no appreciable abrasive effect on enamel and with the development of a minimum amount of erosion of exposed cervical dentin. Later Phillips showed that surfaces of extracted teeth with a high luster accumulated fewer bacteria from contact than did surfaces with a low degree of luster.

Several serious attempts have been made to study the deposits usually found on teeth. These opinions and findings have been carefully summarized by Vallotton. There are of course several different types of unsightly tooth surface accumulations recognized today. Exactly what these stains are, how they form, how they attach themselves to the teeth, and how they may be prevented from forming are questions not yet answered. Until these points are better understood, it is the authors' opinion that there will be a need for a better method of comparing tooth cleanliness so that the effectiveness of dentifrices, brushes, and techniques can be properly evaluated. It was therefore, the purpose of this study to compare the cleansing effect of various dentifrices upon the visible surfaces of the teeth. This was accomplished by having dental students brush their teeth for 3 weeks each with several different dentifrices. Kodachrome photographic records were used to estimate the comparative effectiveness of the dentifrices. Comparisons were made on the basis of the differences in cleanliness of the tooth surfaces visible to the naked eye.

A method was described for comparing the cleansing effectiveness of dentifrices by the observation of permanent records by several observers.

A dentifrice containing insoluble sodium metaphosphate as an abrasive proved more effective when used than did those containing chalk, tricalcium phosphate, or dicalcium phosphate. (J. Dent. Research, Aug. 1952, G. Van Huysen, and T. M. Boyd)

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Mental Examination in Military Induction

During the last war much was learned about the proper selection of men for military service. One fact soon became evident, that those men who revealed difficulties in adjustment or broke down under circumstances of civilian life could be expected to do the same under the regimented stresses of military service. The psychiatrist must keep this in mind constantly as he interviews each man. It is perhaps the best evidence of emotional trouble, next to that revealed by symptom formation, apathy, compulsive traits, delusions, or hallucinations.

The psychiatric examination at induction stations, at present, consists of a simple screening test which is given each man, and a psychiatric interview with each of the inductees who scores low on the test and with those who display emotional abnormalities during the medical examination. While much can be said about the value of a personal interview for each inductee, those who saw how it operated in the past are happy that the screening test is being used. The psychiatrist can err seriously if he is overburdened by too much work.

A number of significant syndromes commonly encountered are: (1) mental deficiency, (2) inadequate personality, (3) the psychoneuroses, (4) homosexuality, (5) psychosis, (6) enuresis, and (7) malingering.

The diagnosis of mental and nervous disorders conforms to the American Psychiatric Association classification. Two broad groups are recognized—the reaction types and the personality disturbances. The reaction group includes the 2 idiopathic psychoses, schizophrenic and manic depressive, as well as all the psychoneurotic and psychosomatic syndromes. The personality disturbances comprise the psychopathic states and include schizoid personality, paranoid personality, inadequate personality, and others. The value of this classification lies in the illumination it gives to the old medical terms "psychoneurosis," "psychosis," and "psychopathy." For example, the old diagnosis of "psychoneurosis hysteria" is now covered by the term "conversion reaction" and "psychoneurosis anxiety hysteria" by the term "phobic reaction".

Diagnosis continues to be based entirely on mature clinical judgment. The various accepted psychologic tests, such as Rorschach and the thematic apperception tests, are projective tests and are of little value in large scale induction examinations. Final evaluation and disposition must be based on what the individual says, feels, and does during the interview.

Occasionally, brief projective questions are of value after the more direct questioning has been concluded. The patient may be asked, "Are you concerned about your thoughts, feelings, or moods? Can you control your wishes or desires? What makes you happy? Have you ever felt like blowing your top? What are the worst things that could happen to any one? In your travels have you met any homosexuals? What would you do with your time if you had only 6 months to live? Such questions may open new

avenues of inquiry and may lead to the discovery of personality trends not suspected or revealed during the ordinary course of the examination.
(Wisconsin M. J., Aug. 1952, J. E. Weber)

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Annual Meeting Association of Military Surgeons

Featuring noted speakers from all the bioscientific fields, timely and significant panels discussions, reports from the Korean War, and colorful ceremonies and entertainment, the forthcoming 59th annual meeting of the Military Surgeons of the United States at the Statler Hotel in Washington, D. C., November 17-19, 1952, under the presidency of Major General Harry G. Armstrong, Surgeon General of the Air Force, promises to be the most outstanding in the long history of this society. It is the only national meeting in the country devoted to the military aspects of medicine, dentistry, nursing, veterinary medicine and the allied sciences.

President Truman has been invited to give the address at the traditional banquet on the evening of November 19th.

Reserve officers of the medical services of the Army, Navy, and Air Force, according to an announcement by the Department of Defense, may earn one point credit for retirement for each day of attendance at the scientific sessions for a period of 2 hours or more. Registration of all reserve officers will be accomplished during the meeting by representatives of the Second Army, the Navy Bureau of Medicine and Surgery, and the First Air Force. Properly authenticated reports will be forwarded to each officer's reserve organization.

All local arrangements and publicity are being handled by a committee headed by Colonel Robert J. Benford, USAF (MC).

Following opening ceremonies on Monday morning, November 17, the scientific program which has been arranged by a committee under the chairmanship of Captain Charles W. Shilling, MC, USN, will be formally opened with a definition analysis of the various military professional fields. The keynote speakers for this session include Rear Admiral Lamont Pugh, Surgeon General of the Navy, Brigadier General Oscar P. Snyder, DC, USA, Director of Dental Activities, Walter Reed Army Medical Center, Captain Helen M. Ely, NC, USA, U. S. Army Dispensary, Fort Myer, Virginia, Colonel Miriam E. Perry, USAF (WMSC), Chief, Women's Medical Service Corps, Office of the Surgeon General, and Colonel Wayne C. Kester, USAF (VC), Assistant for Veterinary Service, Office of the Surgeon General. Dr. F. T. Foard, Chief, Branch of Health, Bureau of Indian Affairs, will report on the medical activities of his organization and Mr. Daniel Rosen, Chief, Medical Statistics Division, Veterans Administration, will speak on "Medicine in the Veterans Administration." The United States Public Health Service will be represented at this symposium by Dr. Joseph Van Ackeren, Assistant Surgeon, USPH, and Chief Medical Officer, US Coast Guard, who

will describe the medical aspects of iceberg patrol and operation of isolated weather stations. The Armed Forces Medical Policy Council will be represented by its chairman, Dr. Melvin Casberg. The scientific program will also cover: Civil Defense, "Report to the Reserves," and panel meetings of the various professional groups within the association. Outstanding representatives of and for each group will present and discuss the various phases of the scientific program.

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From the Note Book

1. Rear Admiral Lamont Pugh, MC, USN, Surgeon General of the Navy and Rear Admiral Clarence J. Brown, MC, USN, Deputy Surgeon General, attended the Annual Convention of the American Hospital Association, Sept. 15-18, at Philadelphia, Pa. The Bureau's scientific exhibit "Audio-Visual Aids in Navy Medical Department Training Programs" was displayed. This exhibit highlights the use of audio-visual aids to accelerate teaching and to increase the retention time of material presented in naval medical training programs. (TIO, BuMed)

2. Four Navy Nurses have recently been decorated for outstanding service in the treatment of the sick and wounded while serving aboard Navy hospital ships and medical department activities in the Far East. The recipients are: Bronze Star Medal, LT. Ruth M. Cohen, NC, USN; Letter of Commendation with ribbon, LCDR. Alberta S. Burk, NC, USN, LT. Edna M. Daughtry, NC, USN, and LT. Althea E. Allegeier, NC, USN. (TIO, BuMed)

3. From July 1951 through April 1952, the American Red Cross obtained 2,986,000 pints of blood for civilian and military purposes; independent blood banks cooperating in the national blood program obtained an additional 453,000 pints. With the growth in transfusion services 2 problems have arisen: (1) the ready availability of blood has led to its increasing use without adequate realization of the hazards involved when no clear indication for transfusion exists, and (2) the repeated donation of blood, particularly by women, constitutes a severe drain on iron reserves, so that hypochromic anemia more readily develops. (J. A. M. A., 30 Aug. 1952, C. V. Moore)

4. Blood is an unstable biologic substance. No method is known whereby it can be preserved over long periods. Removal of the cells permits preservation of the plasma for years. There are no substitutes for red blood cells. Substitutes are available for plasma. The most important commodity in trauma is whole blood. (M. Ann. District of Columbia, Aug. 1952, BRIG. GEN. S. F. Seeley, MC, USA and LT. COL. E. J. Pulaski, MC, USA)

5. "Why are we in America so enamored of credit hours, college degrees, certificates, and special boards? They have no magic of their own; they do not assure competence, interest, initiative and all the important things needed for progress and understanding. All that a degree or other academic award can mean is that the individual who holds the award spent a certain amount of time in a certain place doing certain things to the satisfaction of a certain group of people. There is grave danger that a great deal of harm can be done by setting up artificial standards that have no real meaning so far as the job to be done is concerned." (Editorial Standard and Wages, Journal of the Missouri Medical Association, Sept. 1952, R. O. Muether)

6. The Bureau's scientific exhibit "The Camera in Medicine" was displayed at the 22d Annual Convention of the Biological Photographic Association which was held Sept. 8-10, 1952 at New York City, N. Y. This exhibit presented films and photographs in color and black and white which showed the methods and training performance of the Medical Photography Department, Naval Medical School, National Naval Medical Center, Bethesda, Md. (TIO, BuMed)

7. The August 1952 issue of the American Journal of Physical Medicine is devoted entirely to an up-to-date review of the present knowledge of the medical and scientific aspects of the epidemiology, diagnosis, and treatment of poliomyelitis.

8. An investigation of the many problems involved in recording and reproducing human speech is being conducted by the National Bureau of Standards. The program is the outgrowth of assistance rendered the Library of Congress in improving the quality of "talking books" for the blind. (Technical News Bulletin, NBS, Sept. 1952)

9. The Industrial Hygiene Digest, Aug. 1952, contains 10 commandments of Industrial Hygiene written by an anonymous author. The tenth commandment is: "Thou shalt not seek personal publicity; fill not the literature with tripe."

10. The advantages and disadvantages of the use of the Brown Electrodermatone in primary skin grafting of radical mastoidectomy cavities are described in A. M. A. Archives of Otolaryngology, Aug. 1952, LT. M. H. Zwerling, MC, USNR.

11. An increase in lung cancer, similar to that noted in the recent cancer morbidity surveys of 10 American cities, has occurred in the 7 northern European countries represented at an international working conference on lung cancer held July 21-23 at Louvain, Belgium. The sym-

posium was organized by the Committee on Geographic Pathology of the International Cancer Research Commission for the purpose of coordinating research on the etiology of lung cancer on an international level. (F. S. A., P. H. S.)

12. A study was undertaken to determine whether cortisone could assist in the repair of bone marrow damaged by irradiation. Under the conditions of the experiment it became evident that cortisone administered following irradiation in rats impaired the recovery of hematopoietic tissues. (J. Lab. & Clin. Med., Aug. 1952, J. B. Thiersch, L. Conroy, A. R. Stevens, Jr., and C. A. Finch)

13. A biphasic nursery outbreak of impetigo neonatorum and dermatitis exfoliativa neonatorum (Ritter's disease), consisting of 12 cases of the former and 10 cases of the latter disease, is described in the Journal of Pediatrics, Aug. 1952, H. F. Lee, R. B. Wilson, C. E. Brown, and T. P. Reed)

14. The one-thousandth hospital project to be completed under the Hospital Survey and Construction Act, the Hill-Burton program, will be formally opened October 12. Ceremonies at the 49-bed hospital, located in Lebanon, Ore., will be attended by Government officials and leaders in the hospital field. (F. S. A., P. H. S.)

15. Ceremonies commemorating the Golden Anniversary of the Hospital Corps School, U. S. Naval Hospital, Portsmouth, Va., were held on 20 Sept. 1952 in the auditorium of the hospital.

16. A description of a spontaneous rupture of the symphysis pubis in a normal delivery appears in the British Medical Journal, Aug. 1952, M. Scholtz.

17. CDR. Joseph M. Jordan, MC, USN on duty at the U. S. Naval Hospital, Memphis, Tenn., has recently been certified in the specialty of Ophthalmology by the American Board of Ophthalmology. (TIO, BuMed)

18. A symposium discussing ocular injuries presented at the clinical session of the American College of Surgeons, San Francisco, 5 Nov. 1951, appears in the American Journal of Ophthalmology, Aug. 1952.

19. A total of 3,824 cases of poliomyelitis was reported in the country as a whole during the week ending 12 Sept. 1952. The cumulative total for the disease year is 26,039. The corresponding number for 1951 was 14,220. (F. S. A., P. H. S.)

The Molecular Structure of Terramycin

The molecular structure of terramycin has been found by scientists of Harvard University and Pfizer and Company, to be unique among the antibiotics. The high oxygen-nitrogen content is said to be responsible for the compatibility with body fluids and tissues. The knowledge of the skeleton of terramycin may help explain not only the mechanism of antibacterial action but also the mechanism by which the antibiotic-producing molds build up the complicated substances to combat invading micro-organisms. Minor changes may be made in the molecule with the hope of producing other drugs with new medicinal possibilities. However, terramycin cannot be duplicated by practical synthesis and will probably always be produced by fermentation. It is now known that terramycin does not contain the potentially dangerous nitrobenzene element. (Editor)

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Medical Department Personnel No Longer Responsible
for the Preparation of Identification Tags

The Secretary of the Navy has approved a Bureau recommendation that the medical departments of activities be relieved of the responsibility for the preparation of identification tags. In the future, all necessary instructions concerning the tags will be provided by the Chief of Naval Personnel and the Commandant of the Marine Corps. Accordingly, article 16-41, entitled "Identification Tags," has been deleted from the Manual of the Medical Department. Article 11054, Marine Corps Manual, contains the instructions of the Commandant. A forthcoming page change 6 to the Bureau of Naval Personnel Manual (art. B-2102) will advise that the tags are to be prepared by the Personnel Office of those activities possessing suitable graphotype machines, and that personnel from other activities shall obtain tags from the nearest activity equipped to prepare them. (Admin. Div., BuMed)

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BUMED NOTICE 6150

17 Sep 1952

From: Chief, Bureau of Medicine and Surgery
To: Hospitals and Stations Having Infirmaries and Dispensaries

Subj: Clinical Records and X-rays of beneficiaries of
Veterans Administration

Ref: (a) Art. 23-303(6)(d) items 617 and 629 MMD
Advance change 1-8

1. Reference (a) items 617 and 629 MMD advance changes 1-8 contain instructions for the disposition of clinical records and x-rays of beneficiaries of the Veterans Administration. Effective immediately all such records shall be addressed to:

Manager
Veterans Administration Records Center
52 Starling Street
Columbus 8, Ohio

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BUMED NOTICE 12275

16 Sep 1952

From: Chief, Bureau of Medicine and Surgery
To: National Naval Medical Center
Naval Hospitals (continental)

Subj: Industrial Relations Institute; schedule for second half of F. Y. 1953

Ref: (a) BuMed C/L 50-119 dtd 23 October 1950

1. This notice announces the following schedule of the Industrial Relations Institute for the second half of fiscal year 1953:

5-16 Jan 1953
2-13 Feb 1953
9-20 Mar 1953
6-17 Apr 1953
25 May-5 June 1953
15-26 June 1953

Nominations to the 1953 sessions, with second choices specified must be received in the Bureau not later than 25 Oct 1952. Final notification of assignment will be made by OIR prior to 8 December 1952.



PREVENTIVE MEDICINE SECTION

Navy Preventive Medicine Conference

A conference of Navy preventive medicine personnel is planned in conjunction with the annual meeting of the American Public Health Association in Cleveland, Ohio. The dates of the Navy conference are 17 to 24 October, and details of the program and travel arrangements can be obtained from district and fleet medical officers, or from BuMed, Code 72. Special Government air transportation is being arranged from Washington to Cleveland, leaving Anacostia Air Station on 16 October and returning on 24 October. Interested personnel unable to obtain orders from official sources may be granted authorization orders with the approval of the commanding officer, and take advantage of this travel opportunity to an important educational conference.

Headquarters of the Navy conference will be the Allerton Hotel at E. 13th St. and Chester Ave. in Cleveland. Reservations for this hotel and for special Government air travel should be made as early as possible by writing to BuMed, Attn. Code 72.

The tentative program of the Navy Preventive Medicine Conference follows:

Friday, 17 October

- 0900 Registration.
- 0930 Opening remarks. Appointment of committees. Plan of seminars.
- 1000 Seminar on organization and functions of preventive medicine.
Chairman: Director, Preventive Medicine Division.
Bureau, district, fleet, and type commands.
- 1330 Preventive medicine activities with combat units, Fleet Marine Force.
- 1400 Preventive medicine activities in ships and stations.
- 1430 Seminar on preventive medicine inspections and reports.
Chairman: Head, Sanitation Section.
Annual and special preventive medicine reports.
Epidemiologic reports.
Chapter 22, Manual of the Medical Department.
Reporting of medical and Inspector General inspections.
The new check-off list concept.
- 2000 Committee meetings.
Training and utilization of personnel.
Food sanitation and related subjects.
Manual of the Medical Department and other directives.
Preventive medicine units.
Plans for next meeting.

Saturday, 18 October

- 0900 Role of preventive medicine in biological warfare defense. Guest speaker.
0930 Standardization of laboratory tests. Guest speaker.
1015 Seminar on venereal disease.
Chairman: Head, Venereal Disease Control Section.
Present status around the world.
Nongonococcal urethritis.
Treponema pallidum immobilization test.
Oral prophylaxis.
Aid stations.
Contact reporting system, United States and foreign.
1330 Preventive medicine's role in disasters. Guest speaker.
1430 Industrial medicine as prevention of lost time in industrially employed personnel. Applications of epidemiology.
1500 Industrial hygiene: sanitary engineering and toxicology in industrial environments.
1545 Tuberculosis control.
Administration.
Utilization of U. S. Public Health Service and private facilities.
1630 Discussion period.

Sunday, 19 October

- 1300 Career planning in Navy preventive medicine.
1330 Panel on training activities.
Chairman: Officer in Charge, Environmental Sanitation Technician course.
Environmental sanitation technician course.
Insect and rodent control advanced training.
Food-handler training administration at district level.
Dishwashing aboard ship.
Food-service personnel.
1530 Joint demonstration of new methods.
1600 Open discussion.
1900 Dinner meeting. Greetings from the U. S. Public Health Service.
Preventive medicine training in the Navy. Guest speaker.

Monday, 20 October

- 0900 Participation of Bureau of Yards and Docks and Public Works sanitary engineers in preventive medicine activities. Yards and Docks representatives.
1000 Seminar on insect and rodent control.
Chairman: Head, Insect and Rodent Control Section.

Responsibility of Medical Department for insect and rodent control operations and co-ordination with Public Works Department.

Qualifications of supervisory personnel and efficiency of insect and rodent control operations.

Utilization of standard materials and equipment.

Contract services versus trained station personnel.

Aerial dispersal of insecticides.

1330 Research in food-sanitation techniques. Guest speaker.

1430 Seminar on food and milk sanitation.

Chairman: Officer in Charge, Epidemiologic Disease Control Unit No. 2.

Food-inspection services.

Army veterinary food inspectors.

Programs and problems of joint Armed Forces in milk and food supervision.

Navy and Public Health Service milk and food program.

The World Health Organization program; how it affects the Navy program.

1930 Joint open-forum discussion: Co-operation in food and environmental sanitation. Bureau of Medicine and Surgery, Bureau of Yards and Docks, Bureau of Supplies and Accounts, Bureau of Ships.

Tuesday, 21 October

0900 - 1700 APHA sessions.

2000 Committee meetings: Preparation of recommendations.

Wednesday, 22 October

0900 - 1200 APHA sessions.

1330 Preventive medicine in military operations. Guest speaker.

1430 Preventive medicine in the future; discussion of committee recommendations (to be completed by special session Thursday, if needed).

Thursday, 23 October

APHA sessions. APHA banquet.

Friday, 24 October

APHA sessions.

Return travel.

Insect and Rodent Control

Solvents for Thermal Fogging

There has been considerable confusion regarding the suitability of various types of oils for use in the Todd Insecticidal Fog Applicator. The latest information from petroleum experts who have done a great deal of research on this problem is summarized as follows:

Kerosene and fuel oil No. 2 (diesel) give satisfactory results, are inexpensive, and are most generally available. However, new-type oil solvents designed specifically for fogging produce a greater number of droplets in the chosen particle size and minimize carbon formation at the nozzle, with the result that less frequent cleaning is required.

The 20% DDT solution or airplane spray, Stock No. G51-I-157-138, as presently specified, was designed for application as a spray or mist. It may not be the type solvent best for use in a fog applicator. Numerous solvents are approved in this specification, some of which are not suitable for use in the Todd Insecticidal Fog Applicator because they cause excessive carbon formation at the nozzle. There are approved solvents which are ideal for thermal fogging, one of which is Sovacide F. However, it is not possible to determine in advance whether a given batch contains one of these solvents or one which will cause rapid clogging. Carbon formation is caused by the solvents and is not related to the DDT concentration. Even 20% DDT in a suitable solvent does not cause excessive carbonization. Dilution of 20% airplane spray to 5 or 7% with fuel oil will reduce but not eliminate carbon formation, and frequent cleaning may still be required.

Development of a new specification for a concentrate solution which will permit only solvents suitable for fogging has been requested to replace the present stock item. It is hoped that a single item suitable not only for exterior fogging (used full strength or diluted with fuel oil) but also for aerial spraying or use with mechanical spray or mist equipment will be possible. Until further notice, however, use of the 20% DDT airplane spray in fog generators will require careful attention to the possibility of carbonizing of nozzles, particularly if concentrations over 7% are used. Many of the old-type screening smoke oils are completely unsatisfactory because they cause extreme carbonization of the nozzle. The importance of keeping the cup of the nozzle clean and smooth cannot be over-emphasized. Slight carbon formation or pitting will result in rapid clogging. Of course, proper operation as directed by the manufacturer's manual is as important as the solvents used.

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"Swimmer's Itch"

"Swimmer's itch" has been the subject of study by Prof. Horace Stunkard, head of the biology department at New York University, and Malcolm Hinchliffe, principal bacteriologist of the Rhode Island Department of Health. They have proved the cause to be microscopic parasitic larvae from mud snails in still ocean waters. The snails have long been associated with "swimmer's itch" from lakes and ponds, but have recently been reported from salt-water areas.

The larvae in one stage are a normal parasite of birds, but when they attack man they cannot get into the blood stream so they die in the skin, starting an intense itching which may last for more than 10 days.

The most certain prevention of "swimmer's itch" would be the destruction of the mud snails where they lie in the water, but since this would be expensive and impracticable it is suggested that swimmers take preventive measures individually. They should keep moving while in the water and should avoid bathing in still waters. If possible they should take a fresh-water shower after bathing and rub their bodies briskly with a rough towel. (New York University, Bureau of Public Information) (See Preventive Medicine Notes, Vol. II, No. 4)

Tuberculosis Control

Disposal of X-Ray Films (14"x17") for Civilian Employees

It is expected that there will soon be a modification of Article 15-90 (6)(b) and of Item 608, Article 23-303 (6)(d) of the Manual of the Medical Department in connection with 14"x17" x-ray films for civilian employees. The change will require the retention of films for a period of only 5 years unless the employee is separated prior to the termination of the 5-year period or the x-ray demonstrates positive pathologic findings. Films demonstrating static pathologic conditions need not be retained after 5 years, with the exception of one representative film for each condition. All x-ray reports will be retained in the civilian medical health jacket.

In the event of separation from employment in the Navy Department, the employee's health record, personnel jacket, and x-rays are to be forwarded as usual to the Federal Records Center, 1724 Locust St., St. Louis, Mo., 6 months after separation.

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Communicable Disease Control

Infectious Hepatitis

Infectious hepatitis probably exists throughout the world and is doubtless endemic in many regions where it has not had clinical recognition. The exact manner in which this disease spreads naturally is not yet thoroughly known, although it is generally believed that the intestinal-oral circuit is one of the most important sources of transmission and personal contact is a common medium of exchange.

The disease may become prevalent in military groups when and where camp sanitation is poor and more particularly during combat. Disease may be the result of the introduction of susceptible personnel into an area where the virus is widespread and where conditions favorable for natural transmission are fulfilled.

There is no reliable way to detect healthy human carriers. Sub-clinical cases or carriers may be suspected if certain tests of hepatic function are found to be abnormal, but the complexity of most of these makes them unsuitable for mass screening tests.

It is not known how long the virus remains in the blood or feces of infected persons. The fecal-carrier state has been reported to persist as long as 16 months. Control of outbreaks depends in large part on the interruption of the intestinal-oral route of spread.

An increased potential for artificial transmission by way of contaminated syringes and needles or instruments which come in contact with the blood of patients exists where hepatitis is widespread.

The Armed Forces Epidemiological Board in May 1950 approved the recommendations of the Commission on Virus and Rickettsial Diseases, which included the following: (1) The viruses of infectious hepatitis and serum hepatitis resist heat more than do ordinary viruses or bacteria; (2) There is no knowledge that the chemical "sterilization" of instruments (with alcohol, etcetera) is effective against hepatitis viruses; and (3) Within any area where hepatitis has been endemic the danger of syringe-transmitted hepatitis is greatly increased and a set of directions for sterilizing instruments should be observed which would be more drastic than would be necessary in the United States. Medical, surgical, and dental instruments should be either sterilized with dry heat for 1 hour, or autoclaved in an autoclave whose thermal capacity is frequently checked, or if instruments are boiled, the period of boiling should be 15 minutes, not 3 minutes as has often been customary. (U. S. Armed Forces M. J., July 1952, W. P. Havens, Jr.)

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Venereal Disease Control

VD Educational Posters

The second set in the series of venereal disease educational posters (Series B, entitled "Your Future," NavPers 110051B (Nos. 1 through 4)) is now being distributed in accordance with General Order No. 18 and joint BuMed, BuPers, MarCorps Circular Letter 51-24. These were developed by BuMed, BuPers, and MarCorps personnel and approved by the Navy Department Coordinating Committee for Venereal Disease Control for the purpose of assisting the commanding officer, the medical officer, and the chaplain in developing a co-ordinated venereal disease educational program. The posters are 10 1/4" x 12". Series A was pictured in Vol. I, No. 6 of "Preventive Medicine Notes."

Training and Visual Aids

Follow-Up on "Instructor's Guide—Sanitary Food Service" Symposia

One naval district has already instituted a follow-up of the recent nationwide tour to introduce the "Instructor's Guide—Sanitary Food Service," NavMed P-1333. The Third Naval District held an indoctrination course in September for sanitary food-service instructors in the proper use of the Guide. The District Sanitation Officer and a representative from the U. S. Public Health Service conducted the course.

General Sanitation

New Series of National Sanitation Foundation Standards for Equipment

The first of a series of standards for the design, installation, and operation of equipment in which public sanitation is a factor has been published by the National Sanitation Foundation. This first set, "Soda Fountain and Luncheonette Equipment," is the result of 4 years of co-operative effort on the part of soda-fountain equipment manufacturers and public-health authorities from many States, collaborating as members of the Foundation's Joint Committee on Food Equipment Standards. The set will be distributed to appropriate bureaus, commandants of naval districts and river commands ashore, and fleet, force, and type commanders afloat.

The series will subsequently include standards for equipment used in the preparation and serving of food and beverages and in the cleansing of cooking and eating utensils in all public eating places, in the washing

of clothes in commercial laundering establishments and homes, and in many other fields in which the manufacturer has a responsibility to maintain high standards of sanitation in his product.

"The significance of the Standard No. 1 is not primarily in its publication," declared Walter F. Snyder, Executive Director of NSF. "Its significance lies in the fact that it represents a pattern of cooperation between industry and health officials which has a great potential. This potential can be realized only through wide utilization of the standards, administrative skill by health personnel, and continued broad support of the effort to bring about uniformity in sanitation."

Mr. Snyder has been invited to speak at the Navy Preventive Medicine Conference, which will be held in Cleveland in October.

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Permit No. 1048

OFFICIAL BUSINESS

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